

DRAFT CHART. NOTES: PCT/EPT meeting
(2-26-96) Feb 23, 1996
WORK GROUP NUMBER 1: BLUE

S = Strength

W = Weakness

Key to Alternatives:

- #7 Water Management with Environmental Storage
- #8 Chain of Lakes Isolated Facility
- #14 Small West-Side Conveyance Facility
- #15 Large West-Side Storage and Conveyance

W #15 Westside large tributaries and Sacramento River effects; hydrodynamics; upstream storage magnitude (8-10 maf)

May be possible to identify narrow windows to divert water

W Integrity of tributaries for spring-run attraction flows

S If we capture peak floodflows into storage
re: spilling into bypasses
reduce fish stranding; may affect a substantial number of fish but this has not been measured (-salmon/+splittail)

Splittail reproduction correlated with overbank flows (i.e., bypass flooding)

Peak floodflows = overall least damaging to fish if captured

? splittail reproductive habitat mitigated by...

Much uncertainty regarding factors affecting reproduction

How are these incorporated into the alternatives?

S #14 Less risk with small facility

Lack of biological data regarding altering Sacramento River hydrodynamics

S #15 Maybe not trimming downstream flows, only reduce encroachment on flood storage

Don't change peak flow, only the duration of peak flows

Extra days of flow would go into westside storage

S #15 ? Captured flows can be used for environmental benefits if turbid releases; doubtful

benefit

- S #14 Shallow reservoirs produce turbidity problem
- Instead of delivering stored water to districts in canal, leave water in the Sacramento River: "substitution benefit"
- W #14 Terrestrial impacts (deer in canal in concentrated areas)
- ? Could design canal to mitigate interception of migration routes: ongoing (DWR no district report)
- W #14 It's better to divert water at Shasta Dam
- Need to fix Red Bluff Diversion Dam effects
- ? Pump peak flows
- W #14 Cost concern: "affordability"
- habitat meander belt
--canal and reservoirs
- S #14 Ecosystem benefits of meander belt are firm; linked with flood control (SB1086)
- W #14 Need to link meander belt with flood conveyance improvement downstream "as system" weirs and elevation control points
- S #14 Meander belt good
- ? Redesign Moulton, Colusa, and Tisdale weirs regarding flood distribution vis-a-vis (in relation to?) flow elevation
- S #14 Link meander belt redesign with bypass habitat improvements (e.g., fish stranding)
- ? Better to keep high flows in river
- W #14 Uncertainty risk regarding bypass habitat
- W #14 Need to add SOD storage (avoid impacts to fish) with substitute supply
- S #14 NOD storage benefits provided by small transfer (5,000-10,000 cfs)
- ? #14 Issue: who gets to use new storage?

--project water exclusively
--back to river in dry years

? Can decide split later

S #14 Benefits to fish:

--reduce entrainment at local diversion
--fix Red Bluff Diversion Dam

S #14 In dry, critical years, Shasta water remains for river use

W #14 Cannot mitigate deer winter range

W #14 Will need to reoperate Shasta and Trinity Dams; will be constrained by temp
(temporary? or temperature?)/management needs below Red Bluff Diversion Dam

Regarding existing and new diversions to westside storage, we need operations study
on real benefits

- need for levee improvements correlated with extent that water supply
and ecosystem quality depend on Delta:

"what is the impact of levee failures?"

"are levees providing a service to the Delta?"

- Delta landowners are helped most by emergency levee management
plans
- 3,000 cfs at Italian Slough is a benefit during low export
Distinguish improving screens at Italian Slough
- Old River at San Joaquin River needs design work
State as general fix for salmon outmigration

Concerns: --upstream flooding
--downstream flooding
--will it work?

? #14 The logic regarding water quality pollutant source control:

? In-Delta versus upstream water source: does not control treatment cost if we have
to comply with new standards

S #14 NOD storage to capture peaks (new or bigger Shasta): Key for a final alternative

- SOD storage more important (continue to not capture NOD peak flows; capture peak flows in Delta (farther downstream); allows curtailment of Delta diversions during critical periods

S #14 With Keswick Canal?, big benefit to eliminate onstream diversions

? GCID problem will be fixed with CVPIA

NOD storage: eliminate all agricultural diversion in all year types

W #14 Meander belt results in sediment erosion and deposition in Delta; therefore, monitoring and maintenance of channel capacity or

S #14 More deposition in newly available overbank areas

Need sedimentation analysis

S #14 With increased export capacity, we can reduce entrainment

Pumping during high flows has less incremental entrainment without loss of annual yield

S #7 Extra pumping capacity results in a benefit of its own for interim (even without SOD storage); for example, maybe fill San Luis Reservoir earlier to reduce later export

W #7 Can now operate export pumps to 15,000 cfs when San Joaquin River flows are available

Longer period for 15,000 cfs would be only small incremental benefit

S #7 In Delta, storage benefits - trade for upstream pulse flows

In-Delta storage issues:

- San Joaquin River salmon problems: Vernalis to lower Mokelumne
- Adult smelt returning to spawn may be subject to entrainment
- Screened diversions in Delta - still fish entrainment ("bathtub effect")
- During peak flows (Sacramento River dominates), diversions to in-Delta islands will have little effect
- Winter storms result in huge numbers of fish moving through the system (delay diversion to declining limb of hydrograph)

- S #7 Is in-Delta better than SOD storage?
- cheaper
 - more flexible use
 - multiple benefits onsite (habitat, levees, etc.)
- W #7 Double diversion a problem (avoid by SOD storage)
- S SOD storage in general: env. share(?) available to shut down pumps
- S In-Delta storage uses existing pumps during available windows
- W (SOD storage required new conveyance)
- S In-Delta storage leads to controlling subsidence
- #7 Best diversion time to in-Delta storage is after first storms
- Refuge water supplies are a constraint on conveyance
- W #7 --Only modest gain regarding water supply
- Still have Delta water quality problems
 - Retains the fish-diversion conflict
 - Redirected impacts of land retirement
- W #7 Only an interim fix, but is beneficial for interim
- S #7 Land retirement has long-term benefits
- S #7 Good balance of water supply and demand management aspects, but for limited/interim period; needs to be complemented by long-term aspects
- S #7 could be implemented quickly
- Fits as interim step for through-Delta alternatives
- S #8 Potential benefits, but needs a great deal of study
- system reliability should not rely on widespread levee improvement
- S #8 Incorporates both storage and transfer
- S #8 Enables maximum capture of peak flows (multiple diversion points)
- Functions as small isolated facility during low-flow periods

- S #8 Multiple benefits of linkage of levee improvement/habitat improvement/storage
- S #8 Need operating criteria with regard to diversions operated with real-time monitoring to avoid entrainment
- #8 Is having multiple diversion points better than having a single diversion point?
- W #8 When would a central-Delta diversion point be desirable?
- S #8 Multiple diversion needed to capture peak flows
- S #8 Could be built incrementally
- W #8 Ability to address south-Delta water quality problems: releases from storage?
- W #8 Small shallow reservoirs don't stratify resulting in algal problems and therefore, unstable; drinking water problem